

Attorney Docket No. 40149/01401 (069P 0453)

REMARKS**I. INTRODUCTION**

Claim 1 has been amended. Support for this amendment can be found at least at page 4, lines 7-17 of the originally filed application. Claims 3, 10, 19 and 25 have been cancelled. Thus, claims 1, 2, 4-9, 11-18, 20-24, and 26-29 remain pending in the present application. No new matter has been added. In light of the above amendments and the following remarks, Applicant respectfully submits that all presently pending claims are in condition for allowance.

II. THE 35 U.S.C. § 103(a) REJECTIONS SHOULD BE WITHDRAWN

Claims 1, 2, 4-9, and 11-18 stand rejected under 35 U.S.C. §103(a) for being obvious over Fesco (U.S. Patent No. 3,738,091) in view of Zhang (U.S. Patent No. 6,156,086) and further in view of Freudenberg (U.S. Patent No. 6,045,595).

Claim 1, as amended, recites, "A filter bag for a vacuum cleaner, comprising: a substantially tubular bag made from a bag material having at least one non woven composite layer, the bag having a closed free end area and an at least partially closed area opposite the closed free end area; and a retaining plate, wherein edges of the bag are at least partially interconnected by a weld seam to form the at least partially closed area, and *wherein a bottom of the bag is formed by folding plies of the bag material to lie one above another and at least partially interconnecting the plies of the bag material, wherein the plies are interconnected by welding*, and wherein a pre-crease is introduced into the bag material substantially parallel to the weld seam in the bottom."

Initially, Applicant notes that the Examiner has not addressed the arguments presented in the Response filed on August 18, 2010 in which Applicant has explained the stark difference between the filter bag of Fesco and that of Zhang. Therefore, Applicant maintains these arguments. Namely, Applicant notes that Fesco and Zhang disclose two entirely different bags. Fesco's filter bag is made by a method consisting of a sequence of deforming a blank 40, which comprises a plurality of panels and folding lines. (*Id.*, col. 3, ll. 19-65, Fig. 6). After creating the bag using the method disclosed by Fesco, the

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“provision of the adhesive defined by the stippled areas on the panels 48 and 62 respectively permits the bag 20 to be closed at the opposite end thereof. (*Id.*, col. 5, ll. 66-68). The resulting bag in Fesco is one with a rectangular cross-section. (*Id.* at Fig. 4). The bottom of this bag, which is square, is the side from which dust enters the bag and is reinforced with a collar (30). Fesco’s filter bag is made from paper. (*Id.* at col. 2, l. 68). So, Fesco discloses a square-bottom filter bag constructed from paper and is formed by the folding and gluing of a blank (40). However, Fesco is silent regarding “*a bottom of the bag is formed by folding plies of the bag material to lie one above another and at least partially interconnecting the plies of the bag material, wherein the plies are interconnected by welding.*”

In contrast, Zhang discloses a filter bag which is flat. (*See* Zhang, Figs. 3-4). This filter bag is formed by overlapping two layers, which are connected at their edges in order to create an inner space (26). Dust enters the space (26) inside this filter bag through the opening (28) in a collar (27). (*Id.* at col. 8, ll. 57-58, Fig. 3). Zhang discloses that the side walls of this filter bag are joined by seams. (*Id.* at Abstract). The edges of the filter bag material are welded to form the bag. (*Id.* at col. 7, ll. 64-65). However, since the bottom of the bag is completely flat and does not include any seams, Zhang is silent regarding “*a bottom of the bag is formed by folding plies of the bag material to lie one above another and at least partially interconnecting the plies of the bag material, wherein the plies are interconnected by welding.*”

Applicant respectfully submits that a filter bag with a rectangular cross-section, as disclosed by Fesco, and a flat filter bag, as disclosed by Zhang, are markedly different because they are constructed in entirely different ways. This is evidenced by the two bags’ entirely different geometrical alignment of their respective materials to be interconnected. According to Zhang, the layers are laid parallel to each other and connected at their edges by welding. In contrast, the layers in Fesco form a side seam in which the layers are not parallel. (*See* Fesco, Fig. 4). Accordingly, it is respectfully submitted that one of ordinary skill in the art would not seek to combine the teachings of Fesco and Zhang.

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Furthermore, even if one of ordinary skill in the art would combine the teachings of Fesco and Zhang (which Applicants do NOT concede), the resulting filter bag would be one in which the side seam is formed by welding. However, since Zhang's filter bag does not include a bottom portion *formed by folding plies of the bag material to lie one above another and at least partially interconnecting the plies of the bag material*, then the resulting filter bag would include a bottom which is formed according to the Fesco disclosure (i.e. by gluing the plied forming the bottom). (See Fesco, col. 5, ll. 55-59). It seems the Examiner acknowledges this deficiency when relying on Freudenberg to teach this recitation. (See 3/7/11 Office Action, pp. 3-4).

Freudenberg discloses a dust filter bag that is made of a filter bag material including an innermost upstream paper layer (2) with a fiber layer (5) on the downstream side of the paper layer (2). (See Freudenberg, Fig. 1). The fiber layer (5) is laminated together with the paper layer and is composed of synthetic, polymer fibers. In addition to the fiber layer (5), another fiber layer (4) is provided on the downstream side of the fiber layer (5). (*Id.* at col. 1, l. 53 – col. 2, l. 3). According to Freudenberg, polymer areas (9) in the form of bars can be formed by ultrasound calendaring of the fiber and paper layers so that both fiber layers melt onto and bond with the paper layer. (*Id.* at col. 4, ll. 9-16). So, Freudenberg is effectively describing the combination of a plurality of material layers to form one layer of a filter bag material. However, Freudenberg does not disclose or suggest folding this material in a way in which multiple layers of this material lie one above the other and are connected via welding. This functionality is recited in claim 1 as *"a bottom of the bag is formed by folding plies of the bag material to lie one above another and at least partially interconnecting the plies of the bag material, wherein the plies are interconnected by welding."* In fact, Freudenberg does not refer to any portion of the filter bag as a "bottom."

Therefore, Applicant respectfully submits that a person of ordinary skill in the art at the time of the invention would not seek to combine the teachings of Freudenberg with those of Fesco because Fesco only discloses paper as the material for the filter bag. There would be no valid reason for one of ordinary skill in the art at the time the

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invention was made to substitute the materials disclosed by Freudenberg for the paper material disclosed by Fesco. The same holds true for the Zhang disclosure. However, even if one of ordinary skill in the art would substitute the materials disclosed by Freudenberg for the paper material disclosed by Fesco (which Applicant does NOT concede), there is no motivation or reason for one of ordinary skill in the art at the time the invention was made to interconnect the plurality of layers of the filter material of the bottom of the bag that is *formed by folding plies of the bag material to lie one above another by welding*. In fact, Fesco only discloses using an adhesive to close the filter bag. Applicant respectfully submits that the combination of Fesco, Zhang, and Freudenberg does not meet the above-cited recitation of claim 1. Instead, this combination would lead to a filter bag with a block bottom formed of layers of the filter material interconnected by gluing and not welding, as recited in claim 1. As previously explained, Freudenberg does not cure this deficiency, but instead teaches a single composite layer. Accordingly, Applicant respectfully requests the withdrawal of the 35 U.S.C. § 103(a) rejection of claim 1 and its dependent claims 2, 4-9, and 11-18.

Claims 20-24 and 26-29 stand rejected under 35 U.S.C. §103(a) for being obvious over Fesco, Zhang, and Freudenberg in further in view of Terzuoli (U.S. Patent No. 3,333,523).

Claim 20 recites, “[a] method for manufacturing a filter bag according to claim 1, comprising of steps: a) producing a substantially tubular bag having at least partially closed area on a closed side of the bag; b) *introducing a die from an open side of the bag in a direction of the closed side of the bag so that a bottom is produced by folding the bag over the die*; and c) connecting, by welding, plies in the bottom which, as a result of the folding, are arranged one above the other, wherein, during step a), pre-creases are introduced into the bag material, wherein at least one of the pre-creases is substantially parallel to the partially closed area on a closed side of the bag.”

The Examiner correctly acknowledges that Fesco, Zhang, and Freudenberg fail to disclose or suggest “*introducing a die from an open side of the bag in a direction of the*

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closed side of the bag so that a bottom is produced by folding the bag over the die." To cure this deficiency, the Examiner relies on Terzuoli. Specifically, the Examiner refers to Terzuoli's disclosure of the use of dies (24). (See 3/7/11 Office Action, pp. 5-6).

Initially, Applicant notes that claim 20 recites "*introducing a die from an open side of the bag in a direction of the closed side of the bag.*" The phrases "from an open side of the bag" and "the closed side of the bag" enable one of ordinary skill in the art to understand that the die is introduced into a pre-existing bag, i.e. a bag that exists prior to the insertion of the die. The bag is already tubular because it has an open side and a closed side. This is further supported by the Specification and drawings.

In contrast, the dies (24) of Terzuoli are used in a completely different context. Terzuoli discloses that the sheet material, from which the filter bag will be produced, is unwound from a supply roll (R) and subsequently passes between dies cylinders (22, 23) "which are suitable rotated and carry cooperating dies 24 for forming the apertures 19 of successive bags." (See Terzuoli, col. 4, ll. 56-62, Fig. 4). So, it is evident from this disclosure and Fig. 4 that the Terzuoli method relates to the formation of the sheets that are subsequently used to form filter bags. When the dies (24) are used, they are not inserted into a filter bag "*from an open side of the bag in a direction of the closed side of the bag,*" as recited in claim 20.

Furthermore, after the above-mentioned portion of Terzuoli's method, the sheet of paper is folded into the tubular bag shown in the cross-section of Fig. 5. After this folding process, the bag is pushed between rollers (44, 45) that press the bag into a flat bag and secure the bonding of the overlapping edges of the panel portions (14a, 14b) by pressing together the adhesive strips (15). (See Terzuoli, col. 5, ll. 72-75). So, the end product of the Terzuoli method is a flat bag. It would be impossible to introduce a die into the interior of a flat bag. Accordingly, Terzuoli fails to disclose or suggest "*introducing a die from an open side of the bag in a direction of the closed side of the bag,*" as recited in claim 20. Applicant, therefore, respectfully requests the withdrawal of the 35 U.S.C. § 103(a) rejection of claim 20 and its dependent claims 21-24 and 26-29.

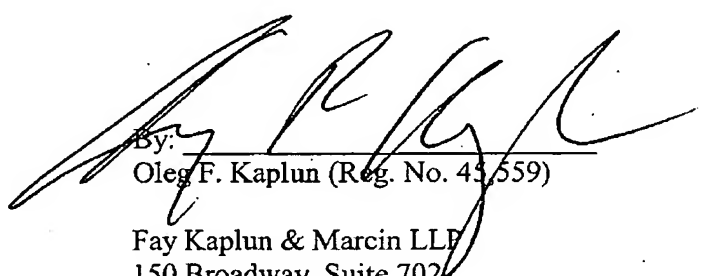
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CONCLUSION

In light of the foregoing, Applicant respectfully submits that all of the presently pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully,

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